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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,523	12/20/2001	Melaine Klasen-Memmer	Merck 2331	2849

23599 7590 08/15/2003

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EXAMINER

WU, SHEAN CHIU

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 08/15/2003

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/022,523

Applicant(s)

KLASEN-MEMMER ET AL.

Examiner

Shean C Wu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 22 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim is vague because there is no formula IV in Claim 1.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5-11 and 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andou et al. (WO 97/36847 or US 6,190,576 or US 6,319,570).

The references disclose that the liquid crystal compounds are used to produce liquid-crystal compositions and devices including (super) twist nematic and the in-plane switching-driven thin-film transistor types or active matrix mode.

The liquid crystal medium comprises the dielectric negative, positive and neutral compounds. The dielectric negative compounds with 2,3-difluorophenyl ring, the dielectric positive compounds with fluorine or trifluoromethoxy and the neutral compounds with biphenyl and cyclohexylphenyl with alkyl and alkoxy side group are

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shown in Examples 24-30. The compounds of the present formulae I-1, I-3 and I-4 are disclosed in the reference formula I, particularly, 1-12. Although the present compounds of the formulae I-1, I-3 and I-4 are not exemplified in the reference, it would have been obvious to those skilled in the art to modify the starting material of scheme (1-B) on col. 85 to arrive at the claimed compound. The compound of the present formula I-3 also is not exemplified in the present specification. The reference compounds (5-HBCF2OB(2F,3F)-O2 and 3-BCF2OB(2F,3F)-O2 exemplified in the reference compositions are closest and functionally equivalent to the present formulae I-3 and I-1, respectively (see formulae I-12, I-14 and I-182, I-183). Also, see the compounds having a core structure of CQPY, CPQIY in the present specification. The present Examples 1-3 and 5 have CPQIY core, which is the same core of the reference HBCF2OB(2F,3F)-O. See the reference Examples 45-47 and 49-54, which have the similar properties (clearing point, optical anisotropy, dielectric constant, et.,) as the claimed medium. Therefore, it would have been obvious to those skilled in the art to optimize and substitute HCF2OB(2F,3F) for BCF2OB(2F,3F) to arrive at the claimed invention because the compounds having an OCF2 group attached to phenyl or cyclohexyl ring are functionally equivalent.

3. Claims 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andou et al. abovementioned in view of Pausch et al. (US 6,027,665).

Andou differs from the claim in that the claim comprises an additional compound represented by the formula III. Because the compound of formula III used in IPS display

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in which the pixels are addressed by means of an active matrix is known in the art, it would have been obvious to those skilled in the art to admix the compound with reference composition to arrive at the claimed invention. See from col. 2 to col. 5.

4. Claims 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andou et al. abovementioned in view of Leenhouts et al. (US 5,883,686).

Andou differs from the claim in that the claim comprises a three-pole switching element. Leenhouts teaches an active-matrix display device with three-pole switching elements such as TFTs with a smaller difference in charge current at different picture content. Because the three-pole switching element used in active matrix is known in the art, it would have been obvious to those skilled in the art to apply three-pole switching element in the reference active matrix display device to arrive at the claimed invention. See lines 5-19 on col. 1.

Response to Arguments

5. Applicant's arguments with respect to claims 1-11 and 12-22 have been considered but are moot in view of the new ground(s) of rejection. See section 2 above.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shean C Wu whose telephone number is 703-308-3956. The examiner can normally be reached on Monday-Friday 9:30 -6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703-308-2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7718 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


SHEAN C. WU
PRIMARY EXAMINER